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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/384,072	08/26/1999	R. ADRIAN BISHOP	TAN99-17	7349

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EXAMINER
CHOW, CHARLES CHIANG

ART UNIT	PAPER NUMBER
2684	

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Please find below and/or attached an Office communication concerning this application or proceeding.

HG

Office Action Summary	Application No. 09/384,072	Applicant(s) BISHOP ET AL.	
	Examiner Charles C. Chow	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *01 August 1999* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Detailed Action

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen (WO 9/22,493) in view of Terho (EP 0,663,785 A2).

Pasanen discloses **claim 1**, a method for communication of data (a wireless LAN network 5 for transferring information, abstract) between a plurality of remote transceivers (peripheral devices 6-15, Fig. 1). A WLAN network 5 based data flows over multiple types of communication links disposed there between (Fig. 1, the type for linking from access-point-server-device 1, using short range distance frequency 4, SDRF, to peripheral devices 6-15 through agent; the type of link from access-point-server-device 1's RF 2 to mobile/other wireless network 3, abstract, page 1, lines 4-14, page 6, lines 19 to page 7 lines 38).

Pasanen discloses the method for establishing a private short-range wireless communication link (SDFR) between the plurality of remote transceivers (peripheral devices 6-15) and a hub

(the WLAN 5 links peripheral device, such as portable computer 15, video camera 13, printer 6, telecopier 7, CD-ROM 8).

Pasanen discloses the providing at least one hardwired communication link over which data flows are established between the hub (the connection from SDRF 4, through control 4d, to RF 2, Fig. 1) and an access unit (server device 1, Fig. 1).

Rasanen discloses the supporting data flows over a subscription-base wireless communication link (the mobile network 3, Fig. 1; the long distance link module to GSM mobile communication system, page 7, line 4-9) between the access unit (server device 1).

Pasanen does clearly mentioned the base station.

Terho teaches the base station is in communication with network, as shown in Fig. 3, the LAN access 1 having data interface 15 for communicating with base station BTS4 for data transferring between LAN and the radio telephone network (abstract), using the data interface 15 (page 2, lines 1-30; page 3, lines 24-35). Terho clearly indicate the essential component, the base station BTS4, for communicating with LAN access point (data interface 15) between the subscriber based network having MSC2 and the LAN 1, as shown above, for the data transfer. It is obviously apparent to include the base station 4, to Rasanen, such that the network has the essential component, base station, for providing the communication link to the network 3. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Terho's base station, to Pasanen such that the LAN could communicate with the network using the base station.

2. Claims 2, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of O'Sullivan et al.(US 5,487,069).

In the above, it does not include the subchannel data transfer rate is less than the nominal data transfer rate.

O'Sullivan teaches **claim 2**, the making available a plurality of subchannels link for data transferring rate on each subchannel is typically less that the nominal data transfer rate of any data flow (the peer to peer wireless LAN having the capability of transmission under multipath condition between LAN and the mobile transceivers, as shown in title, abstract, Fig. 4. In Fig. 4 it shows the plurality of hub 8 in communication with mobile transceiver 9. The subchannels has a low bit rate but the total overall bit rate is high to overcomes the problems of delay time and inter symbol interference as shown in col. 7, line 66 to col. 8, line 8; The simultaneous operation of low bit rate transceivers and high bit rate transceivers is to allocate half of the available high bit channel to the low bit rate transceiver. The low bit rate transceiver utilize only half of the available bandwidth and a hub can transmit data at the low rate to two transceivers at the same time. The same hub for low bit rate and the high bit rate in col. 12, lines 16-23). It is clearly obvious to include O'Sullivan's subchannel for low data rate and high data rate transfer, because by doing so, the system could efficiently allocate the subchannels to improve the multipath problem in the transmission path (col. 2, line 5; col. 2, line 19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add O'Sullivan's allocating subchannel with low, high, data rate, to Pasanen as modified above, such that the system could improve the multipath problem.

Regarding **claim 3**, referring to examiner's comment in claim 2 above for the allocating available subchannel for the high speed data transfers over two or more subchannels (hub simultaneously transmits at low rate to two transceivers, and the high overall data transferring rate among hubs 8 connected to networks for gateway 11 and ISDN 12).

3. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of Rypinski (US 5,907,544).

In the above it does not include the details for the hub is based on an IEEE 802.11 standard. Rypinske teaches **claim 4**, a hub is based on the IEEE 802.11 standard in the hub controller and the multiple wireless network access point (title, abstract) for data transfer between the hub and the access points 71 (Fig. 1-5). The system is based upon the IEEE 802.11 (col. 1, line 33; col. 1, line 45; col. 2, line 32), or based upon the IEEE LAN standard 802 (col. 12, line 55). It is apparently obvious to include Rypinske's hub controller using the IEEE 802 LAN standard 802 for the system. By doing so, the system could be popularly implemented because many equipment are adopting the IEEE 802, and also because of the already available features in the standard 802 LAN. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Rypinske's IEEE LAN standard 802 for hub controller link, to Pasanen as modified above, such that the system could be popularly implemented according to the IEEE 802 standard, and benefited by the available features from IEEE 802 standard.

Regarding **claim 5**, referring to examiner's comment in claim 4, above, for the IEEE 802.3 standard as shown in Fig. 4, 802.3 for the medium access, 802.3, physical.

Regarding **claim 6**, O'Sullivan has shown above the private wireless link supporting multple high speed data transfer for the remote transceivers from the hubs 8 to mobile transceivers 9 using mixed high, low, data rate for the same time to communicate with the two mobile transceivers.

Regarding **claim 7**, Pasanen discloses the subscription-bases wireless link is also a long-range wireless communication link, as shown above the server device 1 communicate with network 3 using long distance module (page 7, line 4-11).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of Rai et al. (US 6,421,714 B1).

In the above it does not include the details for the subscriber-based high speed link.

Rai teaches **claim 8**, the subscriber-based wireless communication link is also a high speed wireless communication link (the wireless data network for point-to-point server for efficiently manage the mobility for internet access, title, abstract, Fig. 6). Rai shows in Fig. 6 that the remote access point 82R are connected to wireless hub 84 for communication with other end system, which is different from the end system in the trunk sectors 1-3. The remote access involving the high speed packet transferring , since the high speed feature supports the whole point-to-point network link (col. 4, line 66 to col. 5, line 17). It is clearly obvious to

include Rai's high speed feature for the point-to-point network link to Pasanen's system. By doing so, the system certainly would be upgraded for efficiently transferring the information using the high speed feature. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Rai's high speed feature for point-to-point network link, to Pasanen's system, such that the system could be upgraded to efficiently transferring the information using the high speed feature.

5. Claims 9, 10, 12, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of Budin et al. (US 5,276,703).

In the above it does not include the details for the subscriber-based high speed link.
Budin teaches **claim 9**, the remote transceiver (44) are operably linked to remote computer terminals (36a-c) in communication with network (local area network including hub units, subscriber stations, and a wireless communication link between each hub unit and its stations (abstract, Fig. 4). The hub 30 provide the remote computers 36a-c to be accessed by remote transceivers communicating with transceiver 44 (col. 7, lines 42-53). Besides, Budin also considered the spread spectrum (col. 21, lines 3-7); the IEEE 802.3 (col. 7, line 64 to col. 8, line 2); the 2.4 GHz link (col. 6, lines 47-58; col. 12,lines 48-53). It is apparently obvious to include Budin's remote computers 36a-c to provide computer resource services to remote transceiver via hub units, such that the remote computer resources could be conveniently accessed by via hub.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Budin's remote link to remote computers via hub, to Pasanen as modified above, such that the system could be upgrade to conveniently access to resource in the remote computer.

Regarding **claims 10, 12, 15,** Budin has shown above, the wireless LAN system utilizes the direct sequence spread spectrum (col. 12, line 48-53) for the short range hut wireless LAN communication to the transceivers 36c, 3d, 38c, using 2.4 GHz (col. 12, lines 48-53) over unique channel from the link means for each of said hub units and its associated station units (col. 22, lines 22-31). Budin considered the Ethernet link (Fig. 3; col. 7, line 64 to col. 8, line 2) for the wired ring IEEE 802.3 network system.

6. Claims 11, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of Jusa et al. (Us 6,031,863).

In the above it does not include the frequency hopping for the hub link, although Budin has shown the hub's communication link is using the spread spectrum direct sequence and the 2.4 GHz (claims 10, 12, 15).

Regarding **claim 11,** Jusa teaches the wireless LAN system utilizing the frequency hopping as shown in abstract, Fig. 1-9, and the hopping controllers 13a-b. Jusa's wireless LNA system periodically hops and varies the carrier frequencies (col. 4, lines 43-51) such that to avoid the overlapping collisions between cells. It is obviously apparent to include Jusa's

frequency hopping to Pasanen's system. By doing so, Pasanen's system could avoid the collision problem. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Jusa's frequency hopping for the hub wireless LAN, to Pasanen as modified above, such that the system could avoid the collision problem.

Regarding **claim 13,** Pasanen has shown above the short range infrared communication.

Regarding **claim 14,** Rai has shown above the wireless internet access system above (title, summary of invention) for the internet network.

7. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of Rai and Newton (Newton's Telecom Dictionary-1998).

In the above it does not include the details for the 1.9 GHz.

Newton teaches **claim 16**, the 1.9 GHz for personal communication network PCN is equivalently in personal communication system PCS and PCS comprises the 1900 MHz band as shown in Newton's page 567. Rai has shown above (Fig. 4), the remote access points AP 82 is communicating with end system other than trunk access point AP 86. The remote end system is another network system other that the end system in wireless trunk sector 1-3.

Rai considers the PCS cellsite for base station (col. 6, lines 9-15) and PCS, in above, comprises the 1900 MHz band. Thus, the base station is a PCS system using 1900 MHz band. It is apparently obvious to include Rai's PCS band for base station, such that the system could be upgrade for PCS system also. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Newton's PCN/PCS

1900 MHz, to Pasanen as modified above, such that the system could also handles the PCN/PCS band.

Regarding **claim 17**, referring to the examiner's comment in claim 1 above, Pasanen has disclosed the long distance link for the cellular second type link greater than 1 mile.

Regarding **claim 18**, referring to the examiner's comment in claim 1 above, Pasanen has disclosed the wireless LAN network 5, as shown above.

7. Claims 19-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of O'Sullivan, Rypinski, Fefer, Rai, and Budin.

Regarding **claim 19**, referring to the examiner's comment in claim 1 above for the method for establishing first link between remote and Hub; the transmitting data message to hub; the routing data message received by hub; the establishing second link from sever device 1 to network 3, and reformatted to including extra physical layer, stripping extra physical layer (the link agents, the means for generating a predetermined linked agent 4d, 16d; the means for transmitting the generated link agent; the means 4b, 16b for receiving link agent means from Pasanen, page 26, line 9-14; page 7, lines 11-12). Pasanen also has disclosed the routing of data is the original data message to network (in the examples 1, 2, page 6, page 23; the setting up a link connection, page 14; the operating example in page 20), and Terho considered the base station for the subscriber-based network.

Regarding **claims 20, 21**, referring to the examiner's comment in claims 2, 3 above for the rate is less than the nominal data rate; the high speed allocated subchannel data transfer.

Regarding **claims 22, 23, 24**, referring to the examiner's comment in claims 4, 5, 6 above for the IEEE 802.11, 802.3; the high speed data transfer for the remote mobile transceivers 9.

Regarding **claims 25, 26, 27**, referring to the examiner's comment in claims 7, 8, 9 above for the long range link; the high speed link; the linked to remote computer in network.

Regarding **claims 28, 29, 30, 31, 32, 33**, referring to the examiner's comment in claims 10, 11, 12, 13, 14, 15 above for the spread spectrum; the FHSS, DSSS, 2.4 GHz over unique single channel; the infrared; the internet; the Ethernet.

Regarding **claims 34, 35, 36**, referring to the examiner's comment in claims 16, 17, 18 above for the1.9 GHz link; the greater than 1 mile, long distance link; the wireless LAN.

7. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen in view of Terho, and further in view of Moelard (US 5,636,217)

In the above it does not include the details for the date message in reverse order.

Moelard teaches **claim 37**, source routed bridged LAN by access points and forwarding packet data for mobile stations (abstract, Fig. 1-4). Moelanrd considers the inserting the routing information in reverse order to data to be transmitted from mobile stations in second group to the mobile station in the first group [col. 7, line 59 to col. 8, line 20; col. 8, (f)], such that the routing information could be update due to mobile changed location (abstract). It is obvious an efficient feature for Pasanen, to include Moelart's reverse order message to

update the mobile's location, such that the system could provide the correct routing information in a special reversed order to efficiently distinguish the routing information for communication of data messages. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Moelard's reverse order messages to Pasanen as modified above, such that the system could efficient identify the routing information for the data transfer in LAN.

Conclusion

8. In the above discussion, Pasanen discloses a wireless LAN network 5 for transferring information between network 3 and peripheral devices 6-15. Pasanen dislcose a wireless LAN network 5 data flows over first link from access-point- server-device 1, using short range distance frequency 4, SDRF, to peripheral devices 6-15 through agent. Pasanen discloses the second type of link from access-point-server-device 1's RF 2 to mobile/other wireless network 3. Pasanen discloses the short-range wireless communication link (SDFR) between the plurality peripheral devices (6-15) and a hub (WLAN 5) links. Pasanen discloses the connection from SDRF 4, through control 4d, to RF 2, for sever device 1. Pasanen discloses the long distance link to the network 3. Terho teaches the access point data interface 15 of the LAN 1 to communicate with the base station BTS4. O'Sullivan teaches allocating subchannel with low, high data rate. Rypinski teaches hub controller is based upon IEEE LAN standard 802. Rai teaches high speed feature for point-to-point network link.Budin teaches remote link to remote computers via hub. Moelard teaches reverse order messages .

9. The cited pertinent prior arts are listed below:

A. US 2002/0089,985 A1, July, 2002, Feder discloses point-to-point wireless data network for connecting to end system using IEEE 802.3 (abstract, Fig. 2-9).

B. US 5,461,627, October 1995, Rypinski teaches the hub controller for rapid data transfer abstract, Fig. 1.

C. US 6,411,632 B2, June 2002, Lindgren et al. teaches the network hub for interconnecting wireless office 40's mobile station 41 with the public cellular network having the translation table in the network hub 38 (abstract, front figure).

D. US 6,330,244 B1, December 2001, Swartz et al. teaches the LAN and PBX and the internet access (Fig. 6D, abstract).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter, can be reached at (703)-308-6732.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow

July 25, 2002.

DANIEL HUNTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in ABANDONMENT of the application